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Remarks**BEST AVAILABLE COPY**Information Disclosure Statement

Applicant gratefully acknowledges consideration of the information disclosure statements filed on November 12, 2003 and December 5, 2003. The examiner indicates that the information disclosure statement filed April 30, 2004 has not been considered because a copy of GB 2368594 was not provided. The examiner also noted that the references listed in the Search Report for Application No. 011910.8 (which is GB 2368594) were not considered because a copy of those references were not provided.

Applicant has submitted a supplemental information disclosure statement and a legible copy of GB 2368594. Applicant notes that the search report for "Application No. 011910.8" is the search report for GB2368594 (which corresponds to Application No. 011910.8), and was submitted as an attachment to GB 2368594. For the examiner's convenience only, Applicant has provided a copy of the English language references listed in the search report for Application No. 011910.8 (GB2368594).

Rejection under 35 U.S.C. § 112

The examiner objected to claims 6-11, 20, 22, 24, and 26 as indefinite under 35 U.S.C. § 112. The claims have been amended in a manner believed to overcome the rejection. The amendment to claim 18 finds support on p.7, l. 28 of the specification.

Rejection under 35 U.S.C. § 103

The examiner rejected claims 1-28 as obvious over WO99/13028 to Exxon ("Wittenbrink") in view of AQUAZOLE™ by Barnaud et al ("Barnaud") and WO 01/83406 to ExxonMobil ("Berlowitz").

Response

In order to establish that the claims are *prima facie* obvious over the prior art, the examiner must point to two things in the prior art, and not in the applicant's disclosure-- (1) the suggestion of the invention, and (2) the expectation of its success. *In re Vaeck*, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991). See also MPEP 2143. The examiner has not met this burden for the following reasons.

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Claim 1 reads as follows:

A water-in-fuel emulsion composition comprising a Fischer-Tropsch derived fuel and water, wherein said water-in-fuel emulsion composition has an ignition delay of equal or less than the equivalent cetane number of 40.

Although the claims are directed to varying subject matter, all of the claims are directed to a composition or a method which uses "[a] water-in-fuel emulsion composition" which comprises "a Fischer-Tropsch derived [or produced] fuel and water." This feature of the claims is sometimes abbreviated, for purposes of brevity only, and referred to as "water-in-Fischer Tropsch derived fuel emulsion."

The claims are based on the discovery that

when using water-in-fuel emulsions (where fuel is the continuous phase), in which the fuel component comprises a Fischer-Tropsch diesel product, certain engine performance advantages are achieved. Such performance advantages are in particular that emissions, for example of NO_x, black smoke and/or particulate matter (PM), are lower as compared to conventional fuels but without lengthening the ignition delay and reducing the cetane number. This is achieved without the need for, or at reduced levels of, ignition improving additives, and without engine modifications.

Specification, p. 4, ll. 11-21.

-Wittenbrink does not teach a "water-in-fuel" emulsion

Wittenbrink is the primary reference on which the examiner relies to reject the claims. Wittenbrink describes a "stable, macro emulsion wherein **water is the continuous phase.**" Wittenbrink, p. 2, Summary of the Invention (emphasis added). Wittenbrink's emulsion comprises a Fischer Tropsch derived hydrocarbon liquid, water, and a surfactant." *Id.*

The examiner admits that Wittenbrink does not teach a "water-in-fuel" emulsion. The examiner certainly has not pointed to a teaching or suggestion in Wittenbrink of the claimed water-in-Fischer-Tropsch derived fuel emulsion.

-The examiner has not pointed to the necessary motivation in Barnaud

The examiner points to Barnaud as teaching a water-in-diesel fuel emulsion, and contends that "[i]t would have been obvious to one of ordinary skill in the art to use

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Barnaud's water-in-oil emulsion in Wittenbrink." The examiner points to various alleged advantages of Barnard's emulsion to support his contention (cols 9-10, conclusions, and cols. 1-2, introduction).

The examiner cannot establish *prima facie* obviousness merely by arguing that the water-in-Fischer-Tropsch derived fuel emulsion required by the claims could be derived by modifying Wittenbrink to incorporate something not taught or suggested by Wittenbrink, itself, or by another cited reference. In order to establish a case of *prima facie* obviousness, the examiner has the burden to point to a teaching or suggestion in the references themselves that it would be desirable to modify Wittenbrink (a) to use Wittenbrink's "Fischer-Tropsch derived hydrocarbon liquid" as the external phase of Wittenbrink's emulsion, and (b) to use water as the internal phase of Wittenbrink's emulsion. MPEP 2143.01; *In re Brouwer*, 37 U.S.P.Q.2d 1663, 1666 (Fed. Cir. 1995). The examiner has not pointed to a teaching or suggestion of the foregoing in the cited references.

The examiner has not pointed to any teaching in Barnaud or elsewhere that would motivate a person of ordinary skill in the art to modify Wittenbrink to substitute Wittenbrink's water continuous phase with Wittenbrink's "Fischer-Tropsch derived hydrocarbon liquid."

Barnaud teaches a composition in which, "diesel fuel is the external phase" (AQUAZOLE™). Barnaud, p. 2 of text, paragraph column 1, paragraph number "1." The examiner has not established that Barnaud's diesel fuel is a Fischer-Tropsch derived fuel. The examiner has not pointed to a teaching or suggestion in Barnaud that would motivate a person of ordinary skill in the art to substitute a **Fischer-Tropsch derived fuel** for Barnaud's diesel fuel. The examiner certainly has not pointed to a teaching of suggestion in Barnaud that would motivate a person of ordinary skill in the art to use a **Fischer-Tropsch derived fuel** as the external phase of the emulsion described in Wittenbrink.

In Barnaud's "water in diesel fuel" emulsion, water is the internal phase. However, Barnaud specifically states that the "water in diesel fuel" (AQUAZOLE™) is

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“an experimental alternative fuel.” Barnard, text p. 2, col. 2, just above “4. Tests on Engine Test Beds and Vehicles.”

The examiner has not established that Barnaud’s teachings related to an “experimental alternative fuel” would motivate a person of ordinary skill in the art to modify Wittenbrink’s “macro emulsion wherein **water is the continuous phase**” (Wittenbrink, p. 2) in the manner required to use **water as the internal phase** of Wittenbrink’s emulsion. The examiner also has not established that Barnaud’s teaching of an “experimental alternative fuel” comprising water as an internal phase would motivate a person of ordinary skill in the art to modify Wittenbrink to use the “Fischer-Tropsch derived hydrocarbon liquid” as the **external phase**, or the continuous phase, of Wittenbrink’s emulsion.

-Berlowitz does not fill the gaps left by Wittenbrink v. Barnaud

The examiner also points to Berlowitz (WO 01/83406) as allegedly supporting the obviousness rejection. According to the examiner, Berlowitz discloses cetane numbers of greater than 60 (Page 4), and this intrinsically implies that the ignition delay is smaller. Office action, p. 6.

Berlowitz does not supply the necessary teaching or suggestion to establish a case of *prima facie* obviousness. Berlowitz describes a “fuel blend contain[ing] **an undercut conventional diesel fuel, blended with a Fischer-Tropsch derived diesel fuel.**” Abstract, emphasis added. The examiner has not established that a person of ordinary skill in the art would expect the water-in-Fischer Tropsch derived fuel emulsion of the pending claims to have the same cetane number as the diesel fuel/Fischer Tropsch derived diesel fuel blend(s) described in Berlowitz.

The examiner has not pointed to a teaching in Barnaud or in Berlowitz that would motivate a person of ordinary skill in the art to modify Wittenbrink in the manner required to produce the claimed “water-in-fuel emulsion composition comprising a Fischer-Tropsch derived fuel and water.” The examiner certainly has not pointed to a teaching or suggestion to produce such an emulsion, “wherein said water-in-fuel

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emulsion composition has an ignition delay of equal or less than the equivalent cetane number of 40."

Applicant respectfully requests that the rejection for obviousness be withdrawn.

CONCLUSION

For all of the foregoing reasons, Applicant respectfully requests reconsideration and allowance of all of the pending claims. The commissioner is hereby authorized to charge any additional fees or credit any overpayment to 19-1800 (File no. TS7594-US), maintained by Shell Oil Company

Respectfully submitted,

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